

REMARKS

Claims 1-61 and 72-87 are pending and were rejected. Additionally, claims 1-61, 77, and 79-87 were objected to. Claims 1, 35-47, 59, 72, and 79 are amended as discussed herein. Reconsideration and withdrawal of the rejections is respectfully requested for the reasons below.

Claim Objections

The Examiner objected to claim 1 because line 4 should not be capitalized. The claim has been amended to correct this obvious typographical error.

The Examiner objected to claim 1 because line 9 should recite “a communication media” not “an communication media.” The claim has been amended to correct this obvious typographical error.

The Examiner objected to claim 35 because line 6 should recite “a communication media” not “an communication media.” The claim has been amended to correct this obvious typographical error.

The Examiner objected to claim 77 because it did not contain a period. The claim has been amended to correct this obvious typographical error.

The Examiner objected to claim 79 because it contained multiple periods, including 2 in line 11. The claim has been amended to correct this obvious typographical error.

Applicant has discovered other minor errors of a typographical nature in the claims. Specifically, claim 47 has been amended to add the word “wherein”, claim 59 has been amended to properly recite the claim number from which it depends (claim 56), and claim 76 has been amended to recite “at least one logical management access channel” rather than “a least one....”

Should Examiner discover further obvious typographical errors, he is invited to correct these by Examiner’s amendment to expedite the examination process.

Rejections Under § 112

Claims 1-61, 72, and 76-78 were variously rejected under 35 U.S.C. § 112, ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Specifically, claims 1 and 13 were rejected for use of the terms “secure location” and “less secure location.” Examiner contends that these relative terms render the claim indefinite. Applicant disagrees. These terms are not intended to provide limitations as to the absolute security of the respective nodes, but rather to require that certain nodes be located in a location that is more secure than other nodes that are in a less secure location. The absolute level of security provided by either location is not restricted. One of ordinary skill in the art would understand this in light of the specification.

For example, in paragraph 0016 the specification teaches that:

[T]he logical security of the entire network may be enhanced by providing greater physical security.... [N]etwork operators ... may maintain logical network security while deploying devices in both secure and non-secure physical locations. That is the ability to *locate network equipment in buildings, rooms or cabinets with varying degrees of physical security as long as the network configuration entity is located in an area of sufficient physical security.*”

Similarly, in paragraph 0063 the specification teaches that “equipment residing in less secure physical environment[s] should present security barriers for effecting the network.” Additionally, paragraph 0080 teaches that:

In some implementations, the NCE [Network Configuration Entity] may be reached through any of its normal communications mechanisms, although, higher security may be achieved if the NCE must be directly accessed by an operator. The latter case provides enhanced security because physical access to the NCE may be controlled, such as by use of a secure locked room or enclosure....

These and other references in the specification provide sufficient description that one of ordinary skill in the art would understand the use of the claim terms “secure location” and “less secure location” to mean that certain network components are located in an area of relatively higher security than other network components. “Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.” MPEP § 2173.05(b). Applicant therefore requests reconsideration and withdrawal of this rejection.

Claims 1, 18–19, 35, 72, and 76 were also rejected under § 112, ¶ 2 for use of the term “substantive.” Examiner contends that one of ordinary skill in the art would be unable to determine the scope of the claim. Applicant disagrees. The relevant claim term is actually “substantive communication,” and Applicant submits that the specification contains sufficient teaching for one of ordinary skill in the art to understand the meaning of this term.

For example, paragraphs 0021 and 0068 refer to “techniques for enhancing security and substantive operations.” One of ordinary skill in the art would clearly understand this to distinguish between system overhead, such as security, and substantive operations, which would include the exchange of the underlying data. Paragraph 0149 clarifies that security is an overhead item. Paragraph 0169 teaches: “In the area of critical security, in order to be most secure, authentication must be completed prior to the exchange of substantive data or the granting of access to downstream data and services.” One of ordinary skill in the art would clearly understand that authentication, a security communication, necessarily requires an exchange of data, but this must occur before the exchange of non-overhead data. Additionally, paragraph 0082 explains that in the event of an NCE failure, substantive communication should be stopped until an NCE comes on line. One skilled in the art would understand that bringing an NCE on line would require the exchange of authentication and other security and configuration data before substantive communication, *i.e.*, non-overhead data, could resume.

Therefore, Applicant submits that one of ordinary skill in the art would understand the use of the term “substantive communication” as it appears in claims 1, 18–19, 35, 72, and 76. Reconsideration and withdrawal of the rejection of these claims is therefore requested.

Claim 72 was rejected under § 112, ¶ 2 for lack of antecedent basis for “said devices.” The claim has been amended to recite “said switches,” for which antecedent basis appears in the claim. Reconsideration and withdrawal of this rejection is therefore requested. Additionally, “said plurality of devices” has been amended to read “said plurality of switches.” This typographical error eliminated proper antecedent basis for this term. Again, if Examiner notices any more of these obvious typographical errors he is invited to correct them by Examiner’s amendment.

Finally, claims 2–34, 36–61, and 77–78 have also been rejected under 35 U.S.C. § 112, ¶ 2 by virtue of their dependency to the claims discussed above. In view of the foregoing remarks, reconsideration and withdrawal of these rejections is requested.

Rejections Under § 102

Claims 1–13, 17–19, 35–47, 51–53, and 72–73 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 5,619,657 to Sudama et al. (“Sudama”). For purposes of the following, Applicant addresses only independent claims 1, 35, 72, and 73.

Independent claim 1 recites numerous limitations not found in Sudama, and thus the rejection of this claim in view of Sudama is inappropriate. For example, Sudama contains no teaching or suggestion of “locating one or more nodes in a secure location. Examiner contends that this limitation can be found in Fig. 2. However, neither Fig. 2, nor the portions of the written description of Sudama that address Fig. 2 contain any teaching or suggestion relating to the location of any of the components, much less any teaching or suggestion that any such locations are secure locations. If Examiner is aware of any such teaching in Sudama, Applicant requests that he more specifically identify such teaching. Otherwise, Applicant requests that the rejection of claim 1 be withdrawn.

Sudama also contains no teaching or suggestion of locating one or more nodes in a less secure location. Examiner contends that this location can be found in Sudama at col. 8, ¶ 4, which is the main discussion of Fig. 2 in the written description. However, as noted above, this passage contains no teaching or suggestion relating to any sort of location, much less any teaching or suggestion that the location is less secure than the secure location discussed above. Again, if Examiner is aware of any such teaching in Sudama, Applicant requests that he more specifically identify such teaching. Otherwise, Applicant requests that the rejection of claim 1 be withdrawn.

Obviously, because Sudama contains no teaching or suggestion of secure and less secure locations, it can contain no teaching or suggestion of “allowing no management access to said secure network from nodes located in said less secure locations.” Examiner again refers to Fig. 2 and col. 8, ¶ 4, discussed above. However, in light of these referenced portions of Sudama failing to teach or suggest anything relating to location, much less

security of the locations, it is nonsensical to suggest that they teach the management access restriction based on these locations. Applicant therefore requests that the rejection of claim 1 be withdrawn.

Although any one of the foregoing is sufficient to render claim 1 patentable over Sudama, other limitations of claim 1 may also absent from Sudama. For example, Examiner again points to col. 8, ¶ 4 and Fig. 2 for “a first port on a first node sending said management information to a second port on a second node via a communication media exclusively shared by said first port and said second port.” However, it is unclear which portions of Sudama Examiner is referring to. What are the first port, second port, and communication media exclusively shared by the first and second ports? Similarly, Examiner points to col. 5, ¶ 3 for “determining a first list of nodes that may send or receive substantive communication in the secure network.” However, col. 5, ¶ 3 contains no teaching or suggestion of determining this type of list. Sudama does teach a global database that “provides a list of hosts for performing specified functions, the hosts’ designated management servers and trusted routing paths between the management servers.” However, this is not a list of nodes that may send or receive substantive communications.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claim 1 is requested.

Claim 35 was also rejected as anticipated by Sudama. As amended, claim 35 requires a primary configuration node “configured or adapted to exclusively control a defined set of management functions throughout said secure network.” Examiner again points to col. 5, ¶ 3 of Sudama as teaching exclusive control. However, neither this passage nor anything else in Sudama teaches that a primary configuration node exclusively controls a defined set of management functions throughout the network. Sudama clearly teaches multiple management servers M1, M2, M3, and M4 that each control a particular area of the network 2, S2, S3, and S4 respectively (Fig. 2 and col. 8, ll. 48–67). The presence of multiple management servers with individual areas of responsibility throughout the network is clearly inconsistent with exclusive control of specified functions throughout the network. Reconsideration and withdrawal of the rejection of claim 35 is therefore requested.

Claim 72 was also rejected as anticipated by Sudama. Claim 72 is drawn to a method of securing a fabric, said fabric having a plurality of switches all communicatively coupled together. Sudama contains no teaching or suggestion of a fabric comprising a plurality of switches all communicatively coupled together, and Examiner has made no attempt to identify such a fabric in Sudama. Rejection of claim 72 in view of Sudama is therefore improper.

Claim 72 also requires “only allowing communication between pre-defined pairs of said switches.” Although Examiner contends that this is found in Sudama at col. 5, ¶ 3, neither this passage nor any other portion of Sudama teaches such switches or such a connection of the switches. This provides a second reason that rejection of claim 72 as anticipated by Sudama is improper.

Furthermore, claim 72 requires “only allowing substantive communication between devices that are on a pre-defined list of allowed devices, said pre-defined list stored on a memory in each of said plurality of switches.” Examiner points to Sudama col. 8, ¶ 1 as disclosing this limitation. However, this paragraph is not relevant. First, it contains no teaching or suggestion of the required switches. Second, it only discloses that a list of trusted relations between management servers is maintained in a database that may preferably be kept on each management server. It contains no teaching or suggestion of maintaining in each (absent) switch a list of all devices that may exchange substantive communication on the fabric. This provides yet a third reason that rejection of claim 72 as anticipated by Sudama is improper.

In view of the foregoing, reconsideration and withdrawal of the rejection of claim 72 as anticipated by Sudama is requested.

Claim 73 was also rejected as anticipated by Sudama. Claim 73 is drawn to a network comprising, among other things, “a plurality of devices including one or more switching and routing devices, any two of said devices able to inter-communicate only by direct links between each other, all devices able to inter-communicate by forwarding communications through each other.” Examiner contends that this limitation is taught by Sudama at col. 5, ¶ 3 and in Fig. 2. However, neither of these portions of Sudama teach or suggest switching and routing devices, but only management servers M1–M4 and host

devices C1–C6. Sudama contains no teaching or suggestion that the management devices perform switching functions. Neither does Sudama teach or suggest that all devices inter-communicate by forwarding communications through each other. In fact, Sudama teaches exactly the opposite noting in col. 8, ll. 51–58 that:

[M]anagement servers M1 through M4 [are] arranged in a hierarchical topology. Management operations can follow a trusted path downstream from M1 to M4, however, no trusted path exists for routing management operations upstream. For instance, M2–M4 cannot transmit a management operation to M1. Also, in this hierarchical topology, M4 cannot forward a request to any other management server M.

Because Sudama fails to teach or suggest “a plurality of switching and routing devices, any two of said devices able to inter-communicate only by direct links between each other, all devices able to inter-communicate by forwarding communications through each other” rejection of claim 73 as anticipated by Sudama is improper.

Claim 73 further requires that “all of said devices carry[] a list of all devices allowed on the network.” Examiner contends that this is taught by Sudama at col. 8, ¶ 1. However, as noted above, this paragraph only discloses that a list of trusted relations between management servers is maintained in a database that may preferably be kept on each management server. It contains no teaching or suggestion of maintaining a list of all devices allowed on the network. Thus the rejection of claim 73 as anticipated by Sudama is improper.

In view of the foregoing, reconsideration and withdrawal of the rejection of claim 73 as anticipated by Sudama is requested.

Rejections Under § 103

Independent claims 76 and 79 were rejected as obvious in view of Sudama in view of FIPS PUB 196 “Entity Authentication Using Public Key Cryptography” (“FIPS”). Reconsideration and withdrawal of these rejections is based on the following remarks.

It is the examiner's burden to establish a *prima facie* case of obviousness. MPEP § 2142. A *prima facie* case of obviousness is established if: (1) there is some suggestion or motivation to combine the references, (2) there is a reasonable expectation of success, and (3) the combination teaches or suggests all the claim limitations. For purposes of this response, it is sufficient to point out that Examiner's proposed combination does not teach or suggest all of the limitations of claims 76 and 79. However, Applicant does not concede that there is suggestion or motivation to combine the references, nor that there is a reasonable expectation of success in making the combination; and Applicant reserves the right to challenge Examiner's proposed combination on these grounds at a later date.

Claim 76 is drawn to a routing device that comprises, among other things, a memory for storing a list of all said other routing devices that are allowed to substantively communicate on the network. Examiner contends that this limitation is taught by Sudama at col. 8, ¶ 1. However, as noted repeatedly above, this paragraph only discloses that a list of trusted relations between management servers may maintained in a database that may preferably be kept on each management server. It contains no teaching or suggestion of keeping a list of all routing devices that are allowed to substantively communicate on the network. This limitation is not taught or suggested by FIPS, either. Therefore, Examiner's proposed combination fails to teach or suggest each limitation of claim 76, and the rejection of this claim as obvious over Sudama in view of FIPS is improper.

Claim 76 further requires "at least one logical management access channel that may be disabled through network management control." Examiner contends that this limitation is taught by Sudama at col. 8, ¶ 4. However, neither this passage nor any other portion of Sudama teaches or suggests a logical management access channel that may be disabled through network management control. Furthermore, FIPS fails to teach or suggest such a logical management access channel. Therefore, Examiner's proposed combination further fails to teach or suggest each limitation of claim 76, and the rejection of claim 76 is improper.

Reconsideration and withdrawal of the rejection of claim 76 is therefore requested.

Finally, independent claim 79 requires, among other things, "an NCE list ... comprising an indication of each device in the network that may operate as said network

configuration entity” and “an SCC list ... comprising an indication of each device allowed to participate in said secure network.” Examiner contends that both of these elements are taught by Sudama at col. 5, ¶ 3. However, this is simply not the case. Presumably, Examiner refers to the “list of hosts for performing specified functions, the hosts’ designated management servers and trusted routing paths between the management servers.” For starters, claim 79 clearly requires two lists, an NCE list and an SCC list. Sudama discloses only one list. Furthermore, the list disclosed in Sudama does not meet the requirements of either the NCE list or the SCC list. The NCE list must indicate each device that may operate as a network configuration entity. The list of Sudama does not contain this information. The SCC list must indicate each device allowed on the secure network. As noted repeatedly above, the list of Sudama does not include this information either. Furthermore, FIPS fails to disclose either such list. Thus, Examiner’s proposed combination of Sudama and FIPS fails to teach the NCE and SCC list limitations of claim 79, and the rejection of claim 79 is improper.

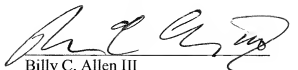
Reconsideration and withdrawal of the rejection of claim 79 is therefore requested.

The foregoing remarks have addressed only the pending independent claims. Obviously, the dependent claims incorporate at least the limitations of their parent claims and are therefore patentable for at least the reasons discussed herein. Therefore, it is respectfully submitted that all pending claims are now in condition for allowance. Reconsideration and withdrawal of the rejections discussed herein and a notice of allowance is therefore requested.

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Respectfully submitted,

1/25/06
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